Order Number: MOP0110008C2

Service Manual

Microwave Oven

NN-E201W

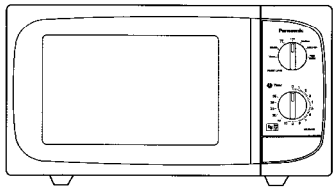
19L

White

EPG for Italy,Spain,Portugal,Greece,Eastern Europe.

GPG for Belguim, France,Finland,Denmark,Sweden, Norway.

WPG for Switzerland



SPECIFICATIONS

Power Source	230V AC Single Phase 50Hz
Power Requirements	Microwave 1200W
Output: (IEC705-88)	Microwave 800W (IEC-705)
Microwave Frequency	2,450 MHz
Timer	35 Min
Oven Cavity Size	19L
Outside dimensions	465mm (W), X 346mm (D), X 279mm (H)
Inside Dimensions	290mm (W), X 306mm (D), X 220mm (H)
Weight	12.5 Kg
Specifications subject to change without notice	

© 2001 Matsushita Electric Industrial Co., Ltd. All rights reserved.
Unauthorized copying and distribution is a violation of law.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

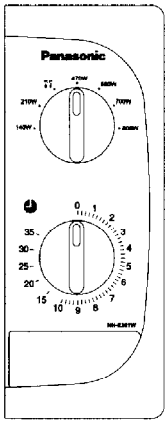
IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

1. Control Panel and Operation Sequence

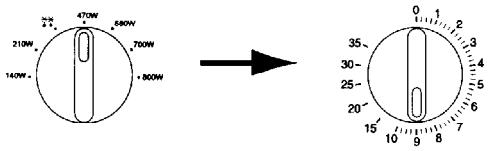
FEATURES	NN-E201W
Mechanical Timer	Yes
Mechanical Varipower	Yes

1.1 Control Panel



(1) Timer/Easy Defrost Dial
(2) Microwave Power Selection Dial
(3) Door Release Pad

1.2 Microwave Cooking

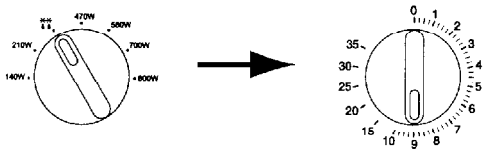


Turn dial to select power level.

Set cooking time by turning the dial. If the door is already closed cooking will begin immediately. For short cooking times always turn the dial to 4 mins and then adjust to time required.

NOTES:
1. When food is removed from the oven after cooking is complete, check the timer is in the zero position.
2. The glass turntable must always be in position when using the oven.

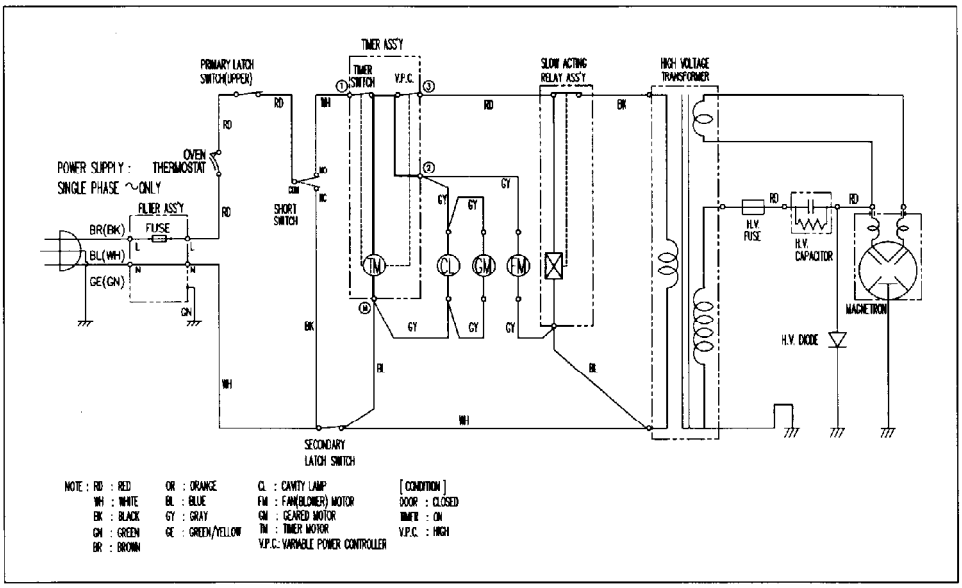
1.3 Defrosting (Wattage : 330 watts)

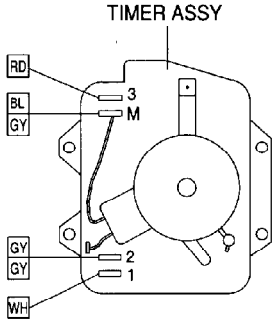


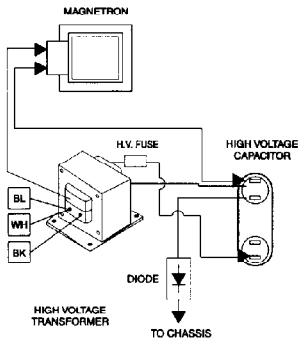
Select Defrost power by turning the dial.

Set cooking time by turning the dial.

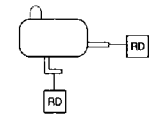
2. Schematic Diagram



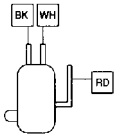




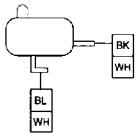
SYMBOL	COLOR
BK	BLACK
GY	GRAY
GN	GREEN
RD	RED
BL	BLUE
WH	WHITE



PRIMARY LATCH SWITCH



SHORT SWITCH



SECONDARY LATCH SWITCH

3. Description of Operating Sequence

3.1 Variable power cooking control

The vari-power controller controls the ON-OFF time of the vari-power switch to vary the output power of the microwave oven from "warm" to "high". The vari-power controller is a part of the timer assembly. The timer assembly consists of timer motor, timer switch, vari-power switch and the combination of gears, cam and actuator lever.

One complete cycle of the vari-power controller is 30 seconds, in which the vari-power switch is turned "on" or "off" by the cam rotation in the 30±2 second period.

By controlling the timing of the vari-power switch "on" period, the 230V AC supplied to the high voltage transformer is interrupted intermittently so that the average output power of the microwave oven is varied.

The table shows the timing chart of vari-power switch operation in respect to the power setting on the control panel.

NOTE: The ON/OFF time ratio does not correspond with the percentage of microwave power since approximately 2 seconds are required for heating of magnetron filament.

POWER SETTING	OUTPUT POWER APPROX.	ON/OFF TIME OF VARI-POWER SWITCH	
		ON(SEC)	OFF(SEC)
HIGH	800W	30	0
MED. HIGH	700W	26.4	3.6
MEDIUM	580W	21.9	8.1
LOW	470W	17.7	12.3
DEFROST	330W	12.3	17.7
SIMMER	210W	7.8	22.2
WARM	140W	5.4	24.6

4. Cautions to be Observed When Troubleshooting

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment. Though it is free from danger in ordinary use, extreme care should be taken during repair.

CAUTION
Servicemen should remove their watches whenever working close to or replacing the magnetron.

4.1 Check the earthing

Do not operate on a 2-wire extension cord. The microwave oven is designed to be used in a completely earthed condition. It is imperative, therefore, to make sure it is properly earthed before beginning repair work.

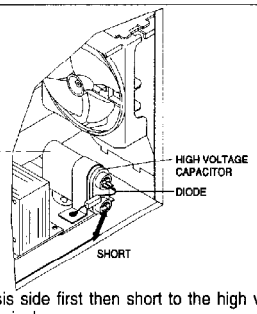
4.2 If the door lock, the door switch, the door seal or the door develops a malfunction, be sure not to operate the oven until complete repairs are made

If the oven is operated with any of these parts in imperfect condition, hazardous microwave leakage may occur.

WARNING
Never operate the oven until the following are confirmed:
- The door is tightly closed.
- There is no broken hinge or door arm.
- The door seal is not damaged.
- The door is not bent or warped.
- There is no other visible damage.

4.3 Warning about the electric charge in the high voltage capacitor

For about 30 seconds after the oven is turned off, an electric charge remains in the high voltage capacitor. When replacing or checking parts, remove the power plug from the wall outlet, wait 30 seconds and short the terminal of the high voltage capacitor (Terminal of lead wire from diode) to chassis ground with an insulated jumper lead wire or an insulated handle screw driver to discharge.



Touch chassis side first then short to the high voltage capacitor terminal

IMPORTANT NOTE
High voltage above 250 volts exists on the following parts during operation.
- Magnetron
- High Voltage Transformer
- High Voltage Diode
- High Voltage capacitor

Pay special attention during repair or troubleshooting in these areas.
If the microwave oven is operated with incorrectly installed door hinge or magnetron, it can cause microwave leakage of over 5mW/cm². Hence it is absolutely necessary to check if magnetron and door hinge are correctly and safely installed after repairs or replacement.

WARNING
Never touch any circuit wiring with your hand nor with an insulated tool during operation.

4.4 When parts must be replaced, remove the power plug from the outlet and discharge the high voltage capacitor

4.5 Confirm after repair

1. After repair or replacement of parts, make sure that the screws of the oven, etc. are neither loose nor missing. Microwaves might leak if screws are not properly tightened.
2. Make sure that all electrical connections are tight before inserting the plug into the wall outlet.

4.6 Avoid inserting nails, wire, etc. through any holes in the unit during operation

Never insert a wire, nail or any other metal object through the lamp holes on the cavity or any other holes or gaps, because such objects may work as an antenna and cause microwave leakage.

4.7

CAUTION
MICROWAVE RADIATION
Personnel should not be exposed to the microwave energy which may radiate from the magnetron or other microwave generating device if it is improperly used or connected. All input and output microwave connections waveguides, flanges and gasket must be secure. Never operate the device without a microwave energy absorbing load attached. Never look into an open waveguide or antenna while the device is energized.

4.8

CAUTION
High voltage parts may become uncovered when outer cabinet is removed.

4.1. Laitteen Huollossa Ja Korjauksessa Huomioonotettavia Varotoimenpiteitä

Toisen kuin monet muut kodinkoneet, mikroaaltouuni toimii korkealla jännitteellä ja suurella virralla. Vaikka uuni onkin täysin turvallinen normaalikäytössä, sen korjauksessa on noudatettava ehdotonta varovaisuutta.

HUOMIO

Magnetronia vaihdettaessa ja sen läheisyydessä työskenneltäessä on riisuttava rannekello.

4.1 Maadoituksen tarkistaminen

Älä käytä kaksijohtimista jatkojohtoa. Mikroaaltouuni on tarkoitettu käytettäväksi maadoitettuna. Sen vuoksi on erittäin tärkeää, että maadoitus tarkistetaan ennen korjaustöiden aloittamista.

4.2 Jos uunin oven lukkoon, sen kytkimeen tai tiivisteisiin tai itse oveen tulee jokin vika, ei uunia saa käyttää ennenkuin vika on korjattu

Jos uunia käytetään oven tai sen jonkin osan ollessa vioittunut, saattaa tapahtua vaarallista mikroaaltovuotoa.

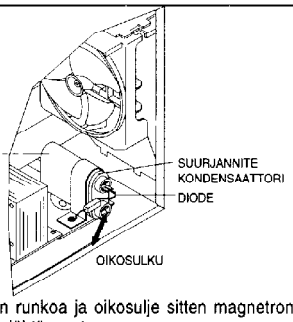
VAROITUS

Ennen uunin käynnistämistä on aina ensin tarkistettava että:

- Uunin ovi on suljettu kunnolla.
- Oven tiivistyslistat eivät ole vahingoittuneet.
- Ovi ei ole vino, vääntynyt tai epätiivis.
- Oven saranat ovat ehjät.
- Ettei uuni ole mitenkään näkyvästi vaurioitunut.

4.3 Huom! Sähkö varautuu korkeajännitekondensaattoriin

Kun uuni on kytketty OFF-asentoon jää sähkövaraus korkeajännitekondensaattoriin noin 30:neksi sekunnksi. Kun asennat tai tarkistat uunin osia kytke uuni OFF-asentoon, odota 30 sekuntia ja oikosulje korkeajännitekondensaattorin kosketin (Diodin liitosjohtimen pääte) kojeiston runkoa vasten eristetyllä "hyppylangalla".



Kosketa ensin runkoa ja oikosulje sitten magnetronin hehkunapojen lähtönavat.

TÄRKEÄ HUOMAUTUS **KORKEA JÄNNITE**

Seuraavien osien jännite voi olla yli 250 volttia laitetta käytettäessä:

- Magnetroni
- Korkeajännitemuuntaja (sijaitsee muuntimessa [U])
- Korkeajännitediodit (sijaitsevat muuntimessa [U])
- Korkeajännitekondensaattorit (sijaitsevat muuntimessa [U]).

Kiinnitä erityistä huomiota näihin osiin.

Jos laitetta käytetään, kun oven saranat tai magnetroni on kiinnitetty virheellisesti, laitteen mikroaaltovuoto voi olla yli 5mW/cm 3 . Korjauksen ja vaihdon jälkeen on ehdottomasti tarkistettava, että magnetroni ja oven saranat on kiinnitetty asianmukaisesti.

VAROITUS

Kytkentäjohtoja ei saa koskettaa käytön aikana käsin eikä eristyskahvalla varustetulla ruuviavaimella.

4.4 Kun laitteeseen vaihdetaan osia on virtajohdin aina irroitettava seinästä ja korkeajännitekondensaattorien jännite purettava

4.5 Tarkistustoimet huollon jälkeen

1. Kun olet korjannut tai vaihtanut laitteen osia, varmista, että uunin ruuvit ja muut osat ovat paikoillaan ja asianmukaisesti kiristettyinä. Uunista voi vuotaa mikroaaltoja, jos ruuveja ei kiristetä asianmukaisesti.
2. Varmista ennen pistokkeen työntämistä pistorasiaan, että kaikki sähköliitännät on kiristetty asianmukaisesti.

4.6 Laitteen aukkoihin ei saa työntää nauloja, johtoja eikä muita esineitä käytön aikana

Älä koskaan työnnä johtoa, naulaa tai muuta metalliesinettä laitteen lampulle tarkoitettuihin tai muihin aukkoihin tai rakoihin.

Tällaiset esineet voivat toimia antenneina ja aiheuttaa mikroaaltovuodon.

4.7

MIKROAALTOSÄTEILYÄ

Käyttäjä ei saa joutua alttiiksi mikroaaltoenergialle, jota voi säteillä magnetronista tai muusta mikroaaltoja kehittävästä laitteesta, jos sitä käytetään väärin tai jos se kytketään väärin.

Kaikkien mikroaaltoiltäntöjen sekä syöttö-että ulostulopuolella, aaltoputkien laippojen ja tiivisteiden tulee olla varmistettuja. Mikroaaltouunia ei koskaan saa käyttää ilman kuormaa jossa mikroaaltoenergiaa kuluu. Avoimeen aaltoputkeen tai antenniin ei koskaan saa katsoa virran ollessa kytkettynä.

4.8

VAROITUS

Irroitettaessa uunin kotelo paljastuu osia joissa on korkea jännite.

4.2. Sikkerhetstiltak Ved Feilsøking

I motsetning til mange andre husholdningsapparater er mikrobølgeovnen et apparat med høy spenning og sterk strøm. Selv om den er ufarlig i normalt bruk må du være ytterst forsiktig ved reparasjonsarbeid.

FORSIKTIG

Reparatører må ta av seg armbåndsur når de arbeider i nærheten av magnetronen, eller skifter den ut.

4.1 Kontroll av jording

Må ikke brukes med totråds skjøteledning. Mikrobølgeovnen er laget slik at den skal jordes. Det er derfor ytterst viktig at du passer på at den er ordentlig jordet før reparasjonsarbeidet påbegynnes.

4.2 Om det finnes feil på dørlas, dørbryter eller dørtetning må ikke ovnen brukes før feilen er rettet. I motsatt fall kan mikrobølgelekkasje oppsto

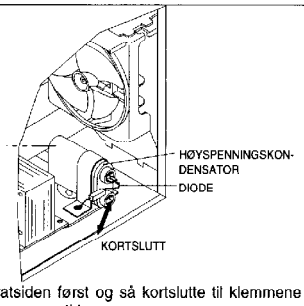
ADVARSEL

Bruk aldri ovnen før følgende er kontrollert:

- Døren er ordentlig stengt.
- Døretningslisten ikke er skadet.
- Døren er skjev, bøyd eller utett.
- Gangjernene er hele.
- At det ikke er annen synlig skade.

4.3 Advarsel vedrørende elektrisk ladning i høyspenning kondensatoren

Ca. 30 sekunder etter at ovnen er slått av, vil det fortsatt være igjen en elektrisk ladning i høyspenning kondensatoren. Ved kontroll eller skifting av deler, sla av ovnen, vent 30 sekunder og kortslutt høyspenning kondensatoren (Sammenkoblingspunkt for ledning fra dioden) til chassis med en isolert ledning som vist på Fig 15.



Berør apparatsiden først og så kortslutte til klemmene på magnetron apparatklemmen.

VIKTIG MERKNAD OM NY HØYSPENNING.

Følgende komponenter har potensialer over 250 V mens apparatet er i bruk.

- Magnetron
- Høyspentomformer (transformator) (finnes på vekselretteren (U))
- Høyspent dioder (finnes på vekselretteren (U))
- Høyspentkondensatorer (finnes på vekselretteren (U))

Vær spesielt nøye med disse områdene.
Når apparatet brukes med dørhengsler eller magnetron feil montert kan mikrobølgelekkasjen nå over 5 mW/cm^3.
Etter reparasjon eller utskifting er det svært viktig å kontrollere at magnetronen og dørhengslene er riktig montert.

FORSIKTIG

Vær forsiktig når du pakker ut, installerer eller flytter apparatet, da noen kanter er svært skarpe og kan forårsake skade hvis du ikke håndterer det forsiktig.

4.4 Ved utskifting av deler, fjern alltid støpslet fra kontakten og kortslutt høyspenningskondensatorene

4.5 Bekreft etter reparasjon

1. Etter reparasjon eller utskiftning av deler skal du passe på at skruene på ovnen osv. ikke er løse eller mangler. Mikrobølger kan lekke ut dersom skruene ikke er skikkelig strammet til.
2. Pass på at alle elektriske koplinger er stramme før du setter støpselet inn i kontakten.

4.6 Unngå å sette spiker, tråd osv. inn gjennom noen av hullene i apparatet mens det er i bruk

Sett aldri tråd, spiker eller noe annen metallgjenstand gjennom lampehullene i hulrommet eller andre huller eller åpninger, fordi slike gjenstander kan virke som en antenne og forårsake lekkasje av mikrobølger.

4.7

ADVARSEL MOT MIKROBØLGESTRALING

Personer må aldri utsettes for straling av mikrobølgeenergi.
Alle tilkoblinger for mikrobølger, som flenser og tetninger må være sikkerhetsmessig betryggende utført. Start aldri apparatet uten mikrobølgeabsorbende belastning.
Mikrobølgestråling fra åpen bølgeleder eller antenne har så stor strålingstet thet at det er stor risiko for skadevirkninger.

4.8

ADVARSEL

Når ytterdekslet fjernes blir høyspenningsførende deler tilgjengelige.

4.3. Sikkerhedsforskrifter, Der Skal Overholdes Ved Fejlfinding

I modsætning til mange andre elektriske apparater er en mikrobølgeovn udstyr, der arbejder ved et højt spændings- og strømniveau. Selv om mikrobølgeovnen er fuldstændig sikker ved normal brug, skal reparation foretages med største forsigtighed.

FORSIGTIG

Montører bør tage deres armbåndsur af, når de skal arbejde i nærheden af magnetronen eller udskifte denne.

4.1 Kontrol af jordforbindelse

Tilslut ikke ovnen ved hjælp af en 2-leder forlængerledning. Mikrobølgeovnen er konstrueret til at arbejde med jordforbindelse. Se derfor efter, at ovnen er forsvarligt forbundet til jord, før reparationen påbegyndes.

4.2 Hvis der er fejl ved låsen til ovndøren, omskifteren for døren eller tætningen af døren, må ovnen ikke anvendes, før fejlen er afhjulpet

Hvis ovnen bruges, uden at sådanne fejl er afhjulpet, er der risiko for udstråling af mikrobølger.

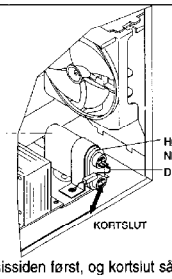
ADVARSEL

Tænd aldrig for ovnen, før De har kontrolleret, at

- Døren er forsvarligt lukket,
- Tætningslisten omkring døren ikke er beskadiget,
- Ovndøren ikke er skæv, bøjet eller utæt,
- Hængslerne er hele, og
- Der ikke findes andre synlige beskadigelser.

4.3 Advarsel om opladning af højspændingskondensatoren

Indtil omkring 30 sekunder efter at ovnen er afbrudt, vil højspændingskondensatoren stadig være opladet. Afbryd ovnen, når De skal udskifte eller kontrollere komponenter, vent 30 sekunder og kortslut højspændingskondensatorens ene tilslutning (Tilslutning for ledning fra dioden) til chassiset med et isoleret stykke ledning.



Berør chassissiden først, og kortslut så til magnetronfilamentets klemme.

VIGTIGT NY HØJSPÆNDING.

Følgende komponenter bærer højspænding over 250 volt under drift.

- Magnetron
- Højspændingstransformer (sidder på vekselretteren (U))
- Højspændingsdioder (sidder på vekselretteren (U))
- Højspændingskondensatorer (sidder på vekselretteren (U))

Der bør udvises ekstra opmærksomhed på disse steder ved reparation/fejlfinding.

Hvis ovnen betjenes med forkert monterede dørhængsler eller magnetron, vil der være risiko for mikrobølgelækager på over 5 mW/cm². Det er derfor bydende nødvendigt at kontrollere, om magnetronen og dørhængslerne er monteret korrekt efter endt reparation eller udskiftning.

ADVARSEL

Kredsløbene må ikke berøres med hånden eller et isoleret værktøj, mens ovnen er i gang.

4.4 Hvis det er nødvendigt at udskifte komponenter, skal De altid fjerne netstikket fra stikkontakten og aflade højspændingskondensatorerne

4.5 Kontrol efter reparation

1. Efter reparation eller udskiftning af komponenter, skal du se efter, at alle ovnens skruer osv. er på plads og fastspændt. Der kan opstå lækage af mikrobølger, hvis skruerne ikke er forsvarligt strammede.
2. Se efter, at alle elektriske forbindelser er strammet til, før stikket sættes i stikkontakten.

4.6 Undgå at stikke søm, ståltråd o.l. gennem hullerne i enheden, mens der er tændt for den

Der må aldrig stikkes ståltråd, søm eller andre metalgenstande i lampehullerne eller andre huller eller åbninger, fordi sådanne genstande kan virke som antenner og forårsage mikrobølgelækager.

4.7

FORSIGTIG
MIKROBØLGEUDSTRÅLING

Personer må ikke udsættes for mikrobølgeenergi, som kan udstråles fra magnetronen eller andre mikrobølgegenerator, hvis den er forkert anvendt eller forbundet. Alle mikrobølgeforbindelser, bølgeledere, flanger og pakninger skal være sikre. Tilsut aldrig apparatet uden en belastning, som kan absorbere mikrobølgeenergi. Se aldrig ind i en åben bølgeleder eller antenne, mens apparet er i gang.

Mikrobølgestrålingen fra en åben bølgeleder eller antenne har så stor intensitet, at der er overhængende risiko for skader.

4.8

ADVARSEL

Når apparatets kabinet aftages, bliver der adgang til dele med højspænding.

4.4. Säkerhetsätgärder Vid Felsökning

Till skillnad från många andra apparater förekommer det hög strömstyrka och höga spänningar i mikrovågsugnar. Ugnen är helt säker vid vanligt bruk, men vid reparation måste största försiktighet iakttagas.

FÖRSIKTIGHET
Vid reparation i närheten av magnetronen eller vid byte av magnetron skall armbandsur avtagas.

4.1 Kontrollera jordningen

Använd inte förlängningskabel med bara två ledare.
Mikrovågsugnen är avsedd att användas jordad. Det är därför viktigt att se till att ugnen är ordentligt jordad innan reparationsarbetet påbörjas.

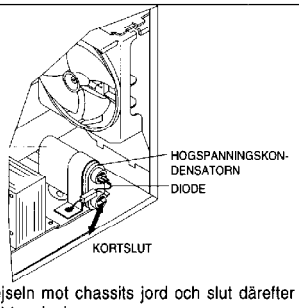
4.2 Om dörrlåset, dörromkopplaren eller dörrtillslutningen visar någon felaktighet, använd ej ugnen innan felet är avhjälpt

Om ugnen används när något av dessa fel har uppstått kan ev. Mikrovågsläckage uppstå.

VARNING
Sätt aldrig på ugnen innan följande har kontrollerats:
- Dörren är ordentligt stängd.
- Dörrtätningslisten inte är skadad.
- Dörren är skev, böjd eller otät.
- Gångjärnen är hela.
- Att annan synlig skada inte finns.

4.3 Varning för elektrisk ström i högspänningskondensatorn

CA: 30 sekunder efter det att ugnen stängts av, kvarstär en elektrisk laddning i högspänningskondensatorn. Vid utbyte eller kontroll av delar, stäng av ugnen, vänta i 30 sekunder och kortslut därefter kondensatorn (Anslutningen för ledning från dioden) till ytter höljets jord genom att använda en isolerad kortslutningsskabel.



Sätt skruvmejseln mot chassits jord och slut därefter kretsen mot ut-terminalerna

VIKTIGT **NY HÖGSPÄNNING**
Följande komponenter har spänningar på över 250V medan ugnen är i bruk.
- Magnetronen
- Högspänningstransformatorn (på omvandlaren) (U))
- Högspänningsdioderna (på omvandlaren) (U))
- Högspänningskondensatorerna (på omvandlaren) (U))

Var särskilt försiktig med de områdena.
Om ugnen används med luckans gångjärn eller magnetronen felaktigt monterade kan mikrovågsläckaget överstiga 5mW/ cm^3 . Det är mycket viktigt att kontrollera att magnetronen och gångjärnen är rätt monterade efter reparation eller byte.

VARNING
Vidrör aldrig några strömförande delar med handen eller med ett icke isolerat verktyg under arbetet!

4.4 Vid byte av delar, tag alltid ur nätkontakten från vägguttaget Högspänningskondensatorerna

4.5 Kontroll efter reparation

1. Kontrollera efter reparation eller byte av delarna att skruvar etc. på ugnen inte sitter löst eller saknas. Det kan läcka ut mikrovågor om skruvarna inte är ordentligt åtdragna.
2. Se till att alla elektriska anslutningar är ordentligt gjorda innan du sätter i kontakten i vägguttaget.

4.6 Stick inte in några spikar, trådar etc i hålen i enheten när den är i bruk

Stick aldrig in någon tråd, spik eller annat metallföremål genom lamphålen i ugnsutrymmet eller i några andra hål eller springor. Sådana föremål kan fungera som antenn och orsaka mikrovågsläckage.

4.7

VARNI NG för MIKROVÅGSSTRÅLNING
Mikrovågsenergi kan stråla från magnetronen eller från annan mikrovågsgenererande anordning om den används eller ansluts felaktigt. Alla anslutningar för mikrovåg, såsom flänsar och tätningar måste vara betryggande ur säkerhetssynpunkt.
Starta aldrig anordningen utan mikrovågsabsorberande belastning. Mikrovågsstrålning från en öppen vågledare eller antenn har sådan strålningstäthet att uppenbar skaderisk föreligger.

4.8

VARNING
Vid avlägsnande av apparatens ytterhölje friläggs högspänningsförande delar.

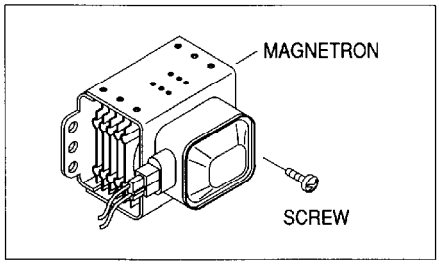
5. Parts Replacement Procedure

5.1 Magnetron

1. Discharge the high voltage capacitor.
2. Disconnect 2 high voltage lead wires from the magnetron filament terminals.
3. Remove 1 screw holding the magnetron.

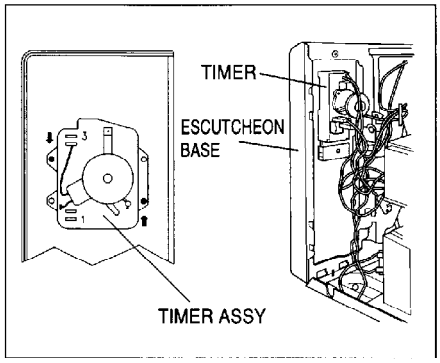
NOTE: After replacement of the magnetron, tighten mounting screws properly making sure there is no gap between the waveguide and the magnetron to prevent microwave leakage.

CAUTION
When replacing the magnetron, be sure the antenna gasket is in place.



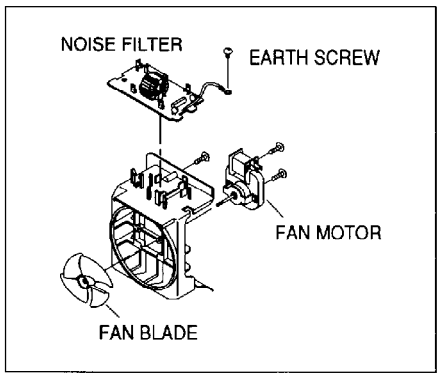
5.2 Timer

1. Disconnect all lead wires from timer.
2. Remove 2 screws holding the timer and timer knob.



5.3 Fan motor

1. Disconnect 2 lead wires from fan motor terminals.
2. Remove a screw holding earth wire of noise filter.
3. Remove a screw which secure the wind guide assembly.
4. Draw forward the wind guide assembly.
5. Remove fan blade from the fan motor shaft by pulling it straight out.
6. Remove two screws which secure the fan motor.



5.4 Door disassembly

1. Remove door C from door E by inserting a flat blade screwdriver between them.

NOTE: Door C is attached to door E by catch hooks. Care should be taken not to damage them when removing.

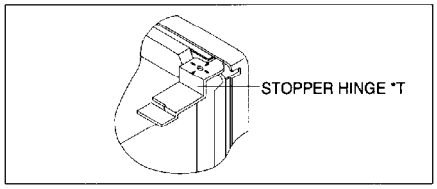
2. Separate door A from door E and releasing from catch hooks using flat bladed screwdriver.

NOTE: Care should be taken to avoid damage to catch hooks during removal.

3. Separate door screen B from door A
4. Remove door key and door key spring.

After replacement of the defective component parts of the door, reassemble it and follow the instructions below for proper installation and adjustment so as to prevent an excessive microwave leakage.

1. When mounting the door to the oven, be sure to adjust the door parallel to the bottom line of the oven face plate by moving the upper hinge and lower hinge in the direction necessary for proper alignment.
2. Adjust so that the door has no play between the inner door surface and oven front surface. If the door assembly is not mounted properly, microwave power may leak from the clearance between the door and oven.
3. Perform the microwave leakage test.



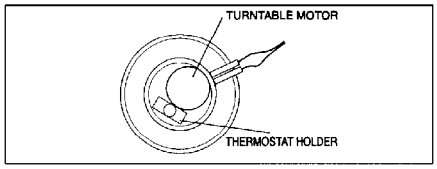
5.5 Turntable motor

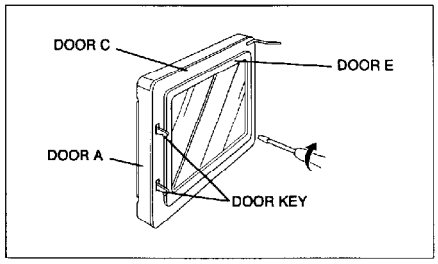
1. Remove the motor cover by breaking off at the 6 spots indicated by arrows with a cutter or similar tool.

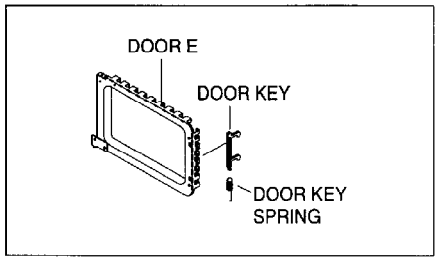
NOTE: After breakng off the motor cover, make sure that cut-off portions are properly trimmed off or bend to inside so that no sharp edge will expose to outside.

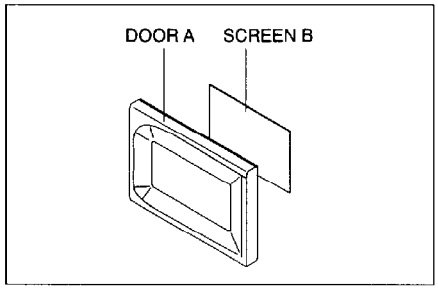
2. Disconnect 2 lead wires connected to the turntable motor.
3. Remove the turntable motor by removing 1 screw.

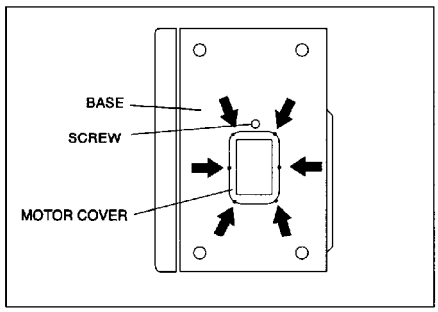
NOTE: To reinstall the motor cover, use 4x6 screws.











6. Component Test Procedure

CAUTION

1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components, or wiring, always unplug the oven from its power source and discharge the high voltage capacitor.

6.1 Primary latch switch, secondary latch switch interlocks

1. Unplug lead connectors to primary latch switch and secondary latch switch.
2. Test the continuity of switches at door opened and closed positions with ohmmeter(low scale).
   Normal continuity readings should be as follows.

	DOOR OPENED	DOOR CLOSED
PRIMARY LATCH SWITCH	∞ Ω(Open)	0 Ω(Closed)
SECONDARY LATCH SWICTH	∞ Ω(Open)	0 Ω(Closed)

6.2 Short switch

1. Unplug lead wires from H.V.transformer primary terminals.
2. Connect test probes of ohmmeter to the disconnected leads which were connected to the H.V. transformer.
3. Test the continuity of short switch with door opened and closed positions with ohmmeter (low scale).
   Normal continuity readings should be as follows.

	DOOR OPENED	DOOR CLOSED
(COM-NO)	∞ Ω	0 Ω
(CON-NC)	0 Ω	∞ Ω

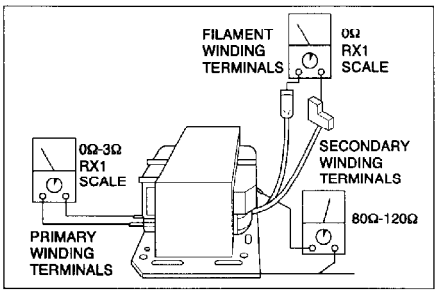
NOTE: In this case, the ohmmeter indicates some resistance of the part(s) such as oven lamp,blower fan motor, etc. connected in parallel with the monitor circuit.

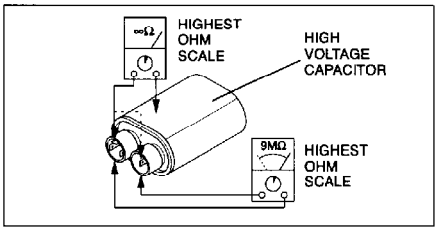
6.3 High voltage transformer

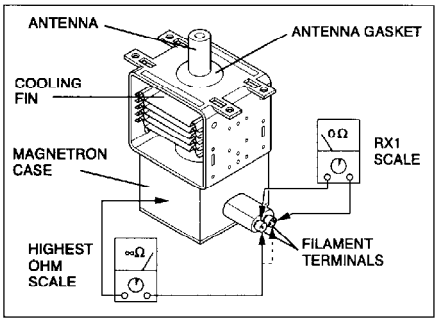
1. Remove connections from the transformer terminals and check continuity.
2. Normal continuity readings should be as follows.
   Secondary winding ..... Approx. 120 Ω -160 Ω
   Filament winding ..... Approx. 0 Ω
   Primary winding ..... Approx.1 Ω - 4 Ω

6.4 High voltage capacitor

1. Check continuity of capacitor with meter on highest OHM scale.
2. A normal capacitor will show continuity for a short time, and then indicate about 10MΩ once the capacitor is charged.
3. A shorted capacitor will show continuous continuity.
4. An open capacitor will show constant about 10MΩ
5. Resistance between each terminal and chassis should be infinite.







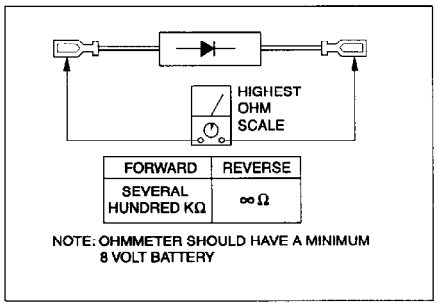
6.5 Magnetron

Continuity checks can only indicate an open filament or a shorted magnetron. To diagnose for an open filament or shorted magnetron.

1. Isolate magnetron from the circuit by disconnection the leads.
2. A continuity check across magnetron filament terminals should indicate one ohm or less.
3. A continuity check between each filament terminal and magnetron case should read open.

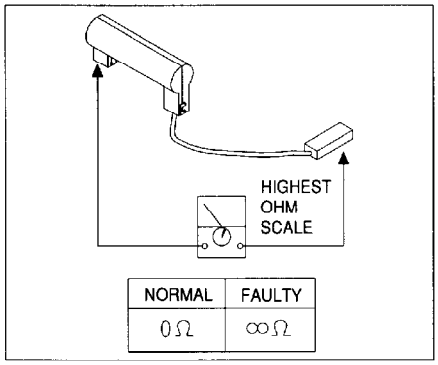
6.6 Diode

1. Isolate the diode from the circuit by disconnecting the leads.
2. With the ohmmeter set the highest resistance scale, measure the resistance across the diode terminals. Reverse the meter leads and again observe the resistance reading.
   Meter with 6V, 9V or higher voltage batteries should be used to check the front to back resistance of the diode, otherwise an infinite resistance may be read in both directions. A normal diode's resistance will be infinite in one direction and several hundred KΩ in the other direction.



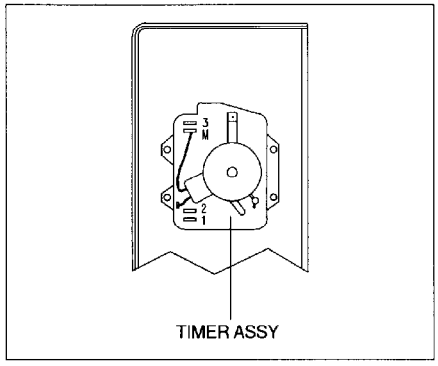
6.7 HV Fuse

1. Isolate the HV Fuse assembly from the circuit by disconnecting its leads.
2. With the ohmmeter set at the highest resistance scale, measure the resistance across the HV Fuse terminals.
   A normal HV Fuse's resistance will be 0 Ω.
   It is faulty if it shows ∞Ω



6.8 Variable power controller(Timer assy)

1. In order to check if variable power controller is operating normally, follow the test procedure below.
   (a) Select any power other than "High"and start the oven.
   (b) Check continually between terminal(M) and terminal(3) of timer assy.
   (c) Variable power controller (timer assy) is working properly if the AC volt meter reads 0Vac and 230Vac within 30±2 seconds interval.

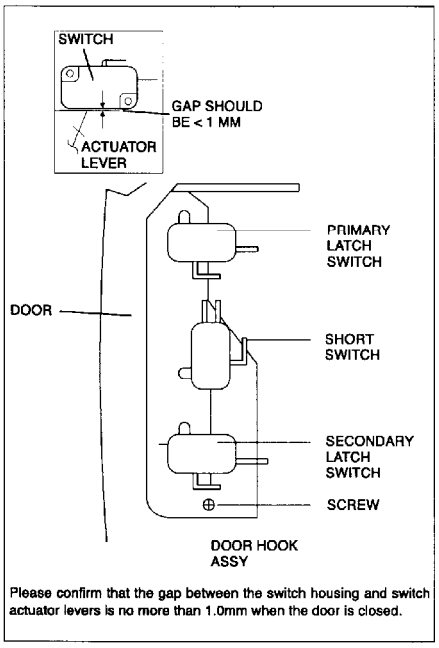


7. Measurements and Adjustments

7.1 Installation of primary latch switch, secondary latch switch and short switch

1. When mounting primary latch switch, secondary latch switch and short switch to door hook assembly, mount the primary latch switch, the secondary latch switch and the short switch to the door hook assembly as shown in the illustration.

NOTE: No specific adjustment during installation of primary latch switch, secondary latch switch and short switch to the door hook is necessary.



Please confirm that the gap between the switch housing and switch actuator levers is no more than 1.0mm when the door is closed.

7.2 Measurement of microwave output

The output power of the magnetron can be determined by performing IEC standard test procedures. However, due to the complexity of IEC test procedures, it is recommended to test the magnetron using the simple method outlined below.

Necessary equipment:

- 1 litre beaker
- Glass thermometer
- Wrist watch or stopwatch.

NOTE: Check the line voltage under load to ensure it meets specifications. Low voltage will cause reduction in the magnetron output. Temperature readings and heating time should be as accurate as possible.

Output power performance test procedure

1. Fill the beaker with exactly one litre of tap water. Stir the water using the thermometer and note the temperature (record as T1)
2. Place the beaker on the centre of glass cook plate.
3. Set to high power and heat for exactly one minute.
4. Stir the water again with the thermometer and note the temperature (record as T2).
5. The normal temperature rise (T1-T2), should be more than 7.0°C using the high power selection with the oven operating at specified line voltage.

8. Troubleshooting Guide

CAUTION

1. Check the unit is grounded before commencing any troubleshooting.
2. Do not take measurements in the high voltage circuit.
3. Discharge the high voltage capacitor.
4. When checking the continuity of the switches or the high voltage transformer, disconnect one lead wire from these parts and then check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.
5. Do not touch any parts of the circuitry on the digital programmer circuit, since static electric discharge may damage this control panel. Always connect yourself to ground to discharge any static from your body.

First of all operate the oven by following the operation procedures exactly in order to find the symptom.

9.1 (TROUBLE 1) Oven does not start

	SYMPTOMS	CAUSE	CORRECTIONS
1	Oven is dead. Fuse is OK.	1. Open or loose lead wire harness.	
		2. Open oven thermostat.	Check fan motor when oven thermostat is defective.
		3. Defective timer switch.	
2.	Oven lamp and fan motor does not rotate.	1. Misalignment or loose wiring of primary latch switch.	Adjust door and latch switches.
		2. Defective latch switch.	
3.	Oven lamp and fan motor operate normally but no microwave oscillation.	1. Off-alignment of latch switches.	Adjust door and latch switches.
		2. Defective slow acting Relay	
		3. Defective or loose wiring of variable power controller.	
		4. Defective variable power controller(Timer assy).	Refer to component test procedure.
		5. Open or loose connection of high voltage circuit especially magnetron filament circuit. NOTE: Large contact resistance will bring lower magnetron filament voltage and cause magnetron to have lower output and/or be intermittent.	
		6. Defective high voltage component H.V.Transformer H.V. Capacitor H.V.Diode Magnetron	Check high voltage component according to component test procedure and replace if it is defective.

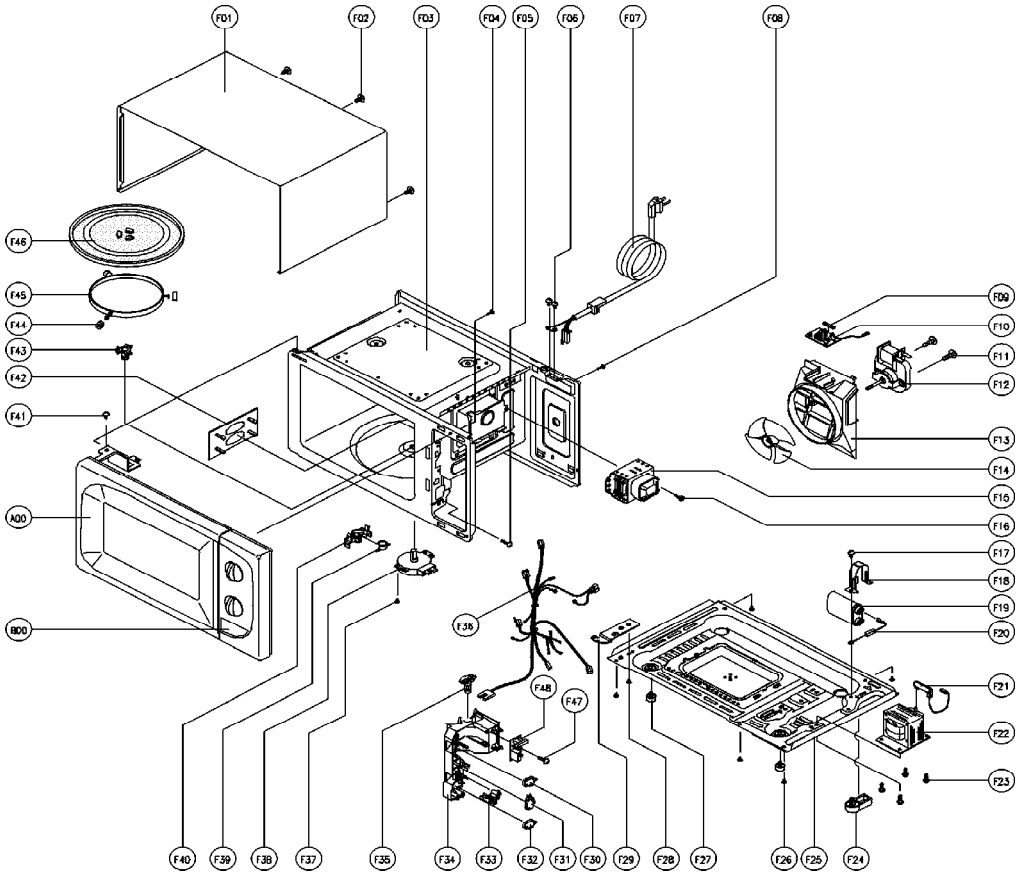
8.2 (TROUBLE 2) Fuse is blown

	SYMPTOMS	CAUSE	CORRECTIONS
1	Fuse is blown.	1. Shorted lead wire harness.	
		2. Defective short switch.	Check adjustment of latch switches and door.
		3. Defective primary latch switch	
		4. Shorted H.V. capacitor	
		5. Shorted H.V. diode.	Replace H.V. diode and HV Fuse (NOTE)
		6. Defective magnetron.	Replace magnetron and HV Fuse (NOTE)
		7. Shorted H.V. transformer.	Replace H.V. transformer and HV Fuse (NOTE)
		8. Opened H.V. fuse	
		NOTE: Be sure to replace HV fuse together with those H.V. components. In this case, only HV Fuse may be opened due to faulty H.V. component. Therefore, if HV fuse is not replaced together, high voltage transformer will be damaged (overheated).	

8.3 (TROUBLE 3) Other troubles

	SYMPTOMS	CAUSE	CORRECTIONS
1	Microwave output is low. Oven takes longer time to cook food.	1. Decrease in power source voltage.	Consult electrician.
		2. Open or loose wiring of magnetron filament circuit. (Intermittent oscillation)	
		3. Ageing change of magnetron.	
2	Loud buzzing noise can be heard.	1. Loose fan and fan motor.	
		2. Loose screws on H.V. transformer.	
		3. Defective H.V. transformer.	
3	Oven stops operation during cooking.	1. Off-alignment of latch switches.	Adjust door and latch switches.
		2. Open or loose wiring of primary and secondary latch switch.	
		3. Operation of oven thermostat	
4	Turntable motor does not rotate.	1. Open or loose wiring of turntable motor.	
		2. Defective turntable motor.	

9. Main Exploded View

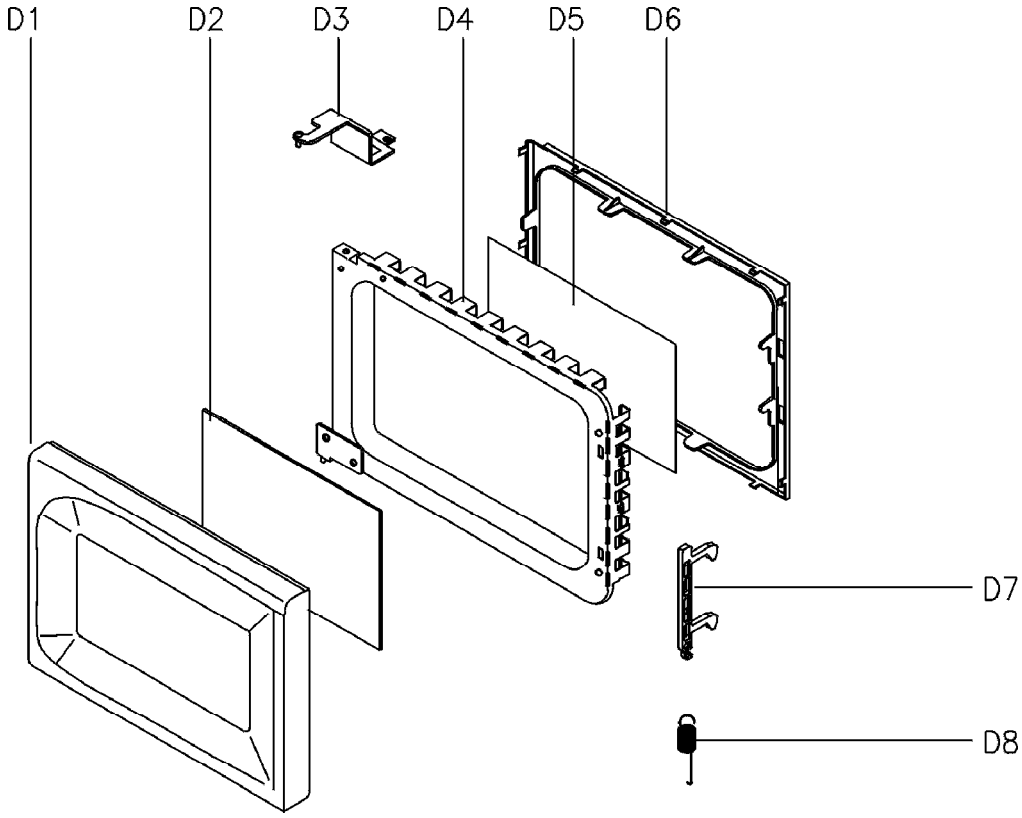


10. Main Parts List

Ref. No.		Part No.	Part Name & Description	Qty	Remarks
A00		3511715220	Door As	1	kor-63gp0s
B00	⚠	3516720680	Control-panel As	1	kor-63g70s
F01		3510803600	Cabinet Painting As	1	kor-61150s
F02		7112401011	Screw Tapping	3	t1 trs 4*10 mfzn
F03		3516109550	Cavity As	1	kor-631h9a
F04		7122401211	Screw Tapping	1	t2s trs 4*12 mfzn
F05		7122401211	Screw Tapping	1	t2s trs 4*12 mfzn
F06		7112401011	Screw Tapping	2	t1 trs 4*10 mfzn
F07	⚠	35113AAQOD	Cord Power As	1	3x0.75 70x70 100-rtml
F07	⚠	35113BEQ0F	Cord Power As	1	WPG Switzerland Only
F08		7122401211	Screw Tapping	1	t2s trs 4*12 mfzn
F09	⚠	4415D67620	Fuse	1	250v 12a 65ts
	⚠	4415D67120	Fuse	1	250v 12a mda
F10	⚠	3518606200	Noise-filter	1	dwlf-m12
F11		7121403011	Screw Tapping	2	t2s pan 4x30 mfzn
F12	⚠	3963512310	Motor Shaded Pole	1	230v 20w mw10ca-m02
F13		3512517000	Guide Wind	1	pp
F14	⚠	3511800300	Fan	1	pp+30%glass
F15	⚠	3518002400	Magnetron	1	2m218j (f)
F16		3516004000	Special Screw	1	t2 bolt flange 5x12 dacro

Ref. No.		Part No.	Part Name & Description	Qty	Remarks
F17		7S422X4081	Screw Special	1	tt2 trs 4x8 se mfzn
F18	⚠	3513003200	Holder Hv Capacitor	1	secc t0.6
F19	⚠	3518302200	Capacitor Hv	1	2100vac 0.98? #187
F20	⚠	3518400900	Diode Hv As	1	hvr-1x-30r #187
F21	⚠	3518701100	Fuse Hv	1	5kv 0.55a hv-41a55-02
F22	⚠	3518116820	Trans Hv	1	dy-n80s0-63t1
	⚠	3518116810	Trans Hv	1	jy-n80so-63t1
F23		3516003700	Special Screw	4	tt3 hex 4x8 flg mfzn
F24		3511409300	Cover Screw	1	pp
F25		3510311700	Base	1	sbhg t0.7
F26		7112401011	Screw Tapping	5	t1 trs 4*10 mfzn
F27		3512100900	Foot	2	pp dasf-130
F28		7S422X4081	Screw Special	1	tt2 trs 4x8 se mfzn
F29		3515201101	Stopper Hinge *u	1	scp-1 t2.5
F30	⚠	5S752310G0	Sw Micro	1	szm-v15-fa-63
F31	⚠	5S752G10G0	Sw Micro	1	szm-v15-fa-61
F32	⚠	5S752310G0	Sw Micro	1	szm-v15-fa-63
F33		3513702600	Lever Lock	1	pom
F34		3513811700	Lock	1	pom black
F35	⚠	3513601600	Lamp	1	bl 240v 25w t25 c7a h187
F36	⚠	3512715050	Harness Main	1	kor-63g70s
F37		7112401011	Screw Tapping	1	t1 trs 4x10 mfzn
F38	⚠	3966310100	Motor Syncro	1	220v 2.5w gm-16-24fd12
F39	⚠	3518905300	Thermostat	1	off:75 on:65 h #187 nb
F40	⚠	3513003400	Holder Thermostat	1	pbt
F41		3516003700	Special Screw	1	tt3 hex 4x8 flg mfzn
F42		3511406220	Cover Wave Guide	1	pp j640a
F43	⚠	3517400620	Coupler	1	xarec
F44		3514700710	Roller	3	teflon
F45		3512517300	Guide Roller	1	pp 5113mf6 a353b
F46		3517203600	Tray	1	glass
F47		7122401211	Screw Tapping	1	t2s trs 4*12 mfzn
F48	⚠	3518570400	Switch s/a Relay	1	dwsr-1

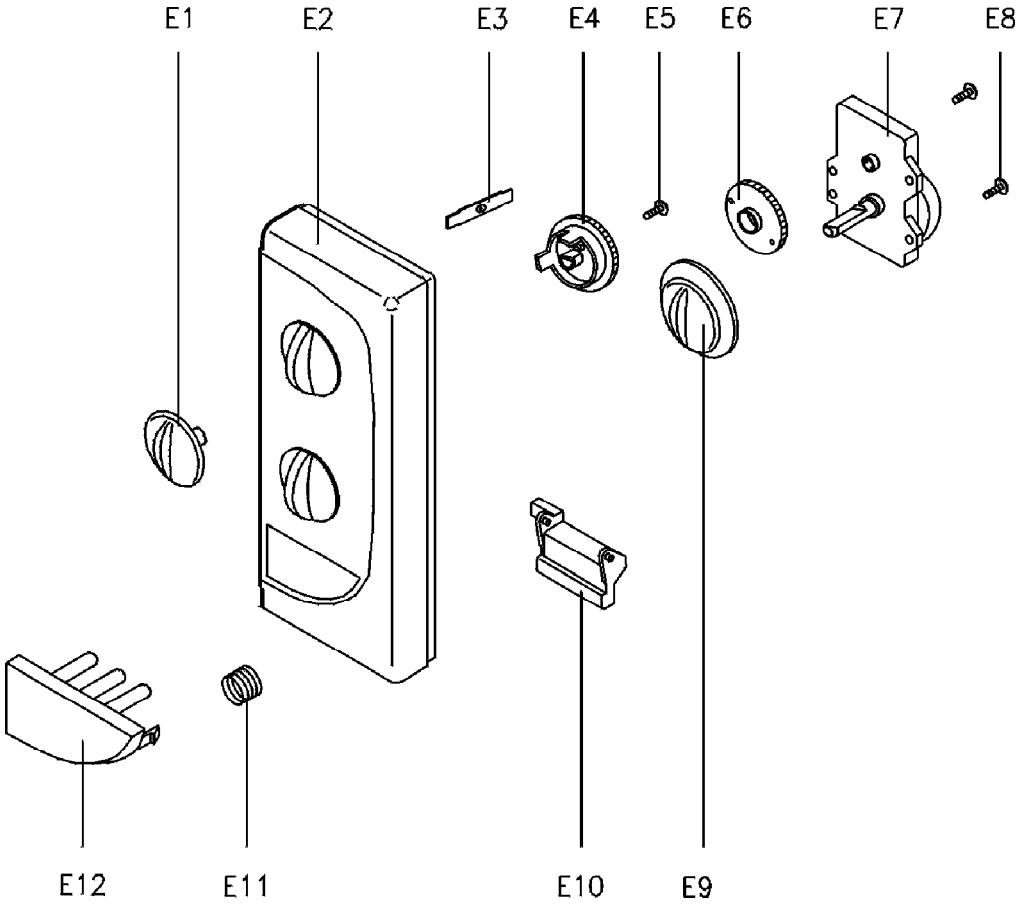
11. Door Assembly



No	Part Number		Description	Qty	Remark
D1	3512205210		FRAME DOOR (door a)	1	
D2	3517007300		BARRIER-SCREEN *O (screen b)	1	
D3	3515204100		STOPPER HINGE *T AS	1	
D4	3511706100		DOOR PAINTING AS (door e)	1	
D5	3517002800		BARRIER-SCREEN *I	1	
D6	3512300200		GASKET DOOR (door c)	1	
D7	3513100700		HOOK (door key)	1	
D8	3515101300		SPRING HOOK (door key spring)	1	

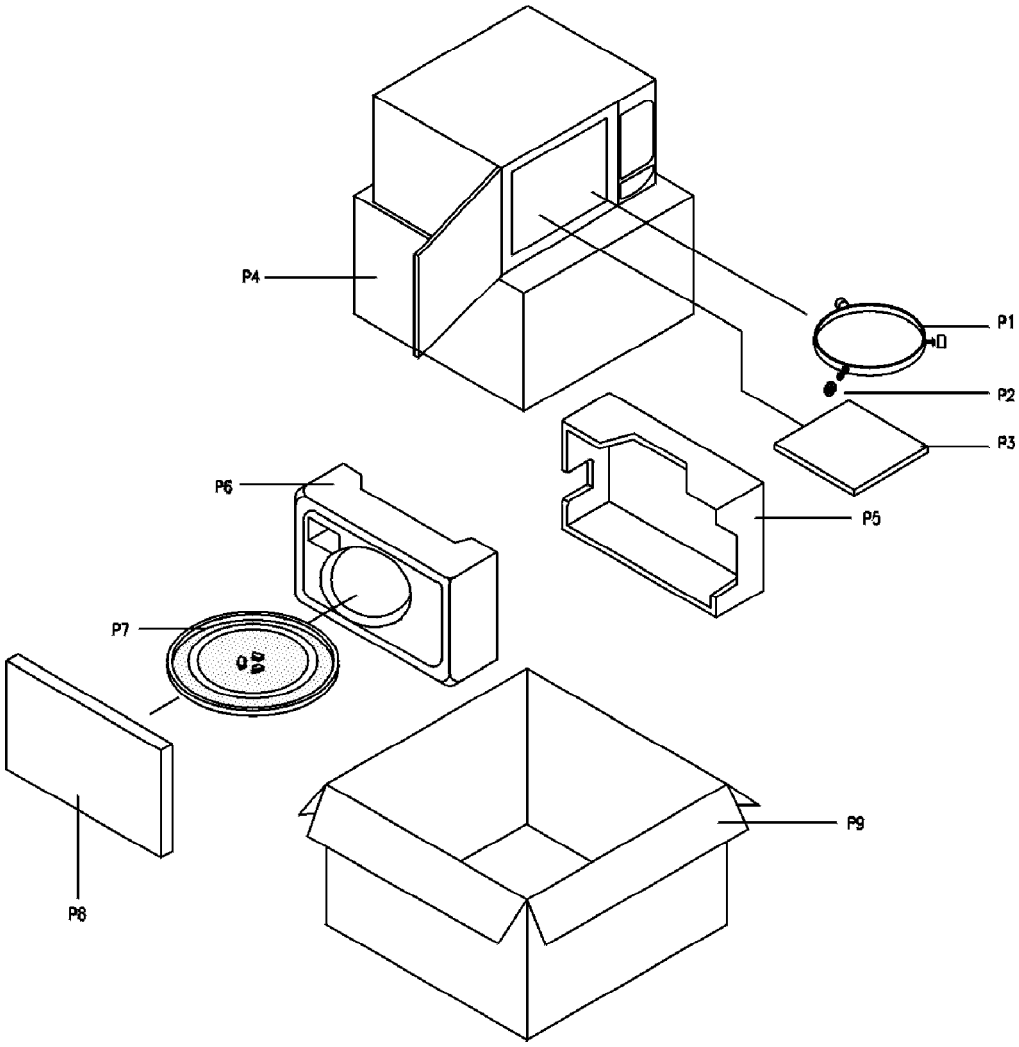
NOTE: When ordering any door components also order door C as this part may become damaged during disassembly.

12. Escutcheon Base Assembly



No	Part Number		Description	Qty	Remark
E1	3513405510		KNOB VPC	1	
E2	3516725390	⚠	CONTROL-PANEL(ESCUTCHEON BASE)	1	
E3	3515101600		SPRING FLAT	1	
E4	3517400510		COUPLER VPC TIMER	1	
E5	7122401211		SCREW TAPPING	1	
E6	3517400400		COUPLER TIMER	1	
E7	3518203800	⚠	TIMER	1	
E8	7122401211		SCREW TAPPING	2	
E9	3513405410		KNOB	1	
E10	3513702700		LEVER DOOR OPEN	1	
E11	441G430171		SPRING BUTTON	1	
E12	3516906960		BUTTON DOOR OPEN	1	

13. Packing and Accessories



No	Part Number		Description	Qty	Remark
P1	3512517300		GUIDE ROLLER	1	
P2	3514700710		ROLLER	3	
P3	4413A700C1		MANUAL INSTRUCTION	1	EPG ONLY
P3	4413A700C2		MANUAL INSTRUCTION	1	GPG ONLY
P3	4413A700C3		MANUAL INSTRUCTION	1	WPG ONLY
P4	3510202010		BAG SET	1	
P5	3511505401		CUSHION *L	1	
P6	3511505301		CUSHION *R	1	
P7	3517203600		TRAY	1	
P8	3514101400		PAD TRAY	1	
P9	3510504700		BOX SET	1	